Science Education and Application Journal (SEAJ)
Program Studi Pendidikan IPA
Universitas Islam Lamongan
http://jurnalpendidikan.unisla.ac.id/index.php/SEAJ

September, 2025. Vol. 7, No. 2,
p-ISSN: 2656-6672
e-ISSN: 2656-8365
pp.121-128

Implementation of Animated Videos to Improve the Science Learning Outcomes of Junior High School Students

[1]Athaya Safa Nabila, [2]Arindra Trisna Widiansyah
[1,2]Universitas PGRI Mpu Sindok Nganjuk
Email Correspondence: athayanabila038@gmail.com

Article Info
Article History
Received: January 30th, 2025
Revised: March 9th, 2025
Published: June 4th, 2025
Keywords
Animated Video, Learning Outcomes, Science Learning

Abstract

Implementation of Animated Video to Improve the Science Learning Outcomes of Junior High School Students. *In the digital era, the use of animated videos is necessary as a learning medium because it presents visual and audio forms without the need for direct observation. This study specifically focuses on improving learning outcomes in science subjects. This classroom action research was conducted in two cycles following Kemmis and Taggart's model (1988). The research subjects involved were 24 seventh-grade students from SMP NU Miftakhul Jannah because the learning resources available at the school are not yet varied. Data were collected through observation and tests. Quantitative data analysis shows an increase from cycle I to cycle II from 58.24% to 83.2 %. These findings suggest that animated videos can serve as an effective tool for improving student learning outcomes, particularly in technology-integrated education.*

Citations: Nabila, A. S., & Widiansyah, A. T. (2025). Implementation of Animated Videos to Improve The Science Learning Outcomes of Junior High School Students. Science Education and Application Journal (SEAJ), 7(2), 121–128.

INTRODUCTION

Learning is an activity carried out by the teacher to change student behavior for the better. (Fakhrurrazi, 2018). Enhancing the quality of education can be achieved through the integration of media into the learning process. (Ferry & Kamil, 2019). According to Wulandari et al. (2023) and Fadilah & Kanya (2023) Emphasize that the primary role of media in education is to stimulate students' motivation to learn. Research indicates that students exhibiting high levels of motivation tend to achieve superior academic results. (Suryaman & Suryanti, 2022). This finding aligns with earlier studies, including those by Ferry & Kamil. (2019), which demonstrated that the implementation of animated video learning models significantly contributes to improved student performance.

Numerous strategies have been devised to enhance the efficacy of the learning process, among which is the incorporation of technology-driven educational media, specifically through the utilization of animated videos. An animated video is a movie created by processing audio that corresponds with images to produce images that move along a predetermined path for each frame. (Islam et al., 2022). This animated video medium represents a category of electronic media that utilizes video formats to disseminate information through engaging animations. (Puspitasari & Informasi, 2024). In the learning process, using animated video-based media by presenting learning material through videos that can be analyzed directly by students, and can

make students think critically in examining what has been presented by the teacher. (Sakila et al., 2024).

However, in practice, numerous students continue to encounter challenges in attaining optimal learning outcomes in the field. Preliminary observations conducted by researchers at SMP NU Miftakhul Jannah indicated a lack of variation in the teaching and learning methodologies employed. Teachers still use the lecture method, presentations using PowerPoint, the use of textbooks, and student worksheets (LKS). Furthermore, students frequently encounter difficulties in the comprehension of the content presented by the educator. Student learning results from daily tests; it was found that 70.8% of students still did not meet the Standardized Criteria for Completeness (KKM). The current state of student learning outcomes indicates that they are not yet fully optimized and require enhancement. One alternative solution to overcome these problems is to utilize animated videos in learning. Animated video media can make it easier for teachers to explain student learning material and can attract student attention because animated videos have an attractive appearance. The more interesting the media looks, the more motivated students will be in learning, which will affect their learning outcomes. (Resiani et al., 2015).

Existing scholarly work has investigated the impact of animated videos on student learning outcomes; however, the preponderance of this research is directed towards students in grade VIII and at the secondary school level. The utilization of animated videos as an instructional resource within the seventh-grade junior high school curriculum, particularly in the context of substances and their transformations, has not been extensively explored. Consequently, this study seeks to address this lacuna by evaluating the efficacy of animated videos in enhancing student learning outcomes at the aforementioned grade level.

The primary objective of this research endeavor is to examine the correlation between the utilization of animated videos and the subsequent learning outcomes achieved by seventh-grade students in the domain of science education. This research endeavor is centered on the topic of substances and their transformations, with a specific emphasis on evaluating the capacity of animated videos to facilitate student comprehension of this material and consequently enhance their academic performance. This research endeavor is projected to furnish empirical findings that substantiate the positive influence of animated videos in their capacity as an innovative learning medium.

The urgency of this research lies in the need for technology-based learning methods as an answer to the challenges of education in this digital era. This research provides a practical solution to the problem of low learning outcomes of grade VII students by using a technology-based approach that is easy to implement. In addition, the results of this study are expected to be a reference for teachers in developing more interesting and innovative learning strategies.

METHODS

Conducted at SMP NU Miftakhul Jannah in Berbek District, Nganjuk, between September 27 and October 26, 2024, this classroom action research investigated the effect of animated videos on the learning outcomes of 24 seventh-grade students (11 boys and 13 girls).

The researcher, in collaboration with the science subject teacher, conducted the observation involving seventh-grade students at SMP NU Miftakhul Jannah. The purpose of the observation was to examine the practical application of animated videos in the learning environment. Assessments were employed to evaluate student learning outcomes. This research approach utilizes the Kemmis and Taggart model, which consists of two cycles and

four distinct phases: planning, implementation, observation, and reflection (Azizah, 2021; Institut et al., 2021; Machali, 2022; Utomo et al., 2024). The design in the presented animation video includes thought-provoking questions, definitions, and classifications of substances with illustrations, an animated video showcasing examples of substance changes in daily life, and finally, a conclusion with reflection questions for the students. The duration for conducting this lesson is 50 minutes.

1. Planning

The planning phase encompasses the formulation of a comprehensive action plan aimed at realizing predetermined objectives. At this juncture, the researcher engages in collaborative discourse with the teacher to delineate the initial conceptualization of the substance material and its attendant changes. This collaborative effort serves as the foundation for the subsequent preparation of appropriate learning materials, including, but not limited to, animated videos, LKPD, and test sheets.

2. Implementation

The execution of this process involves engaging in direct, in-person educational activities within the classroom setting. At this stage, the class used is class VII SMP NU Miftakhul Jannah. The activities carried out at this stage are: (1) greeting students with greetings, (2) attendance, (3) apperception, (4) showing animated videos according to the material discussed, (5) asking questions to students, (6) explaining the tasks that students must do and distributing student worksheets that have been prepared.

3. Observation

Observation is observing the results or consequences of the actions taken on students. At this stage, observations are made of the situation of the learning process, the results, and any obstacles that occur during the learning process. Furthermore, this phase is conducted to determine which actions align with the established plan.

4. Reflection

Reflection is an activity that includes analysis and evaluation of the actions taken with students. The data collected is then analyzed to check whether the action has been by the plan prepared and to find effective solutions that will be taken to be followed up in the next cycle (Inovasi et al., 2021).

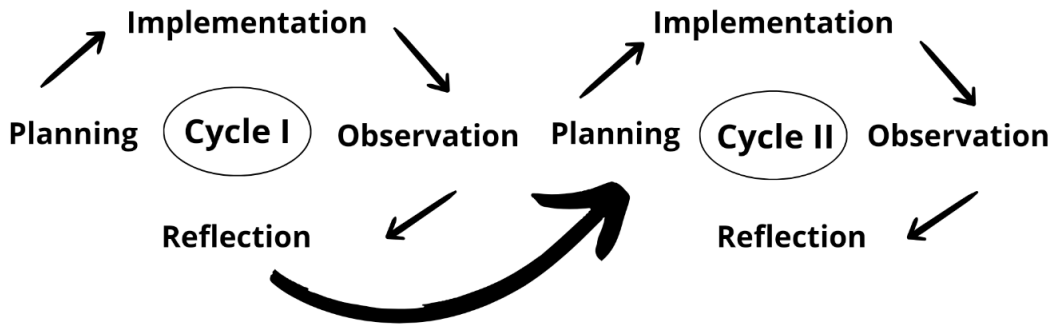

Figure 1. Classroom Action Research
Source: personal image adopted (Kemmis and Taggart, 1988)

The data analysis approach employs comparative quantitative methods to assess the influence of animated media on educational outcomes. In this study, the performance metric is defined as whether the average student score meets or exceeds the minimum competency

standard (KKM) of 70 or achieves a target completion rate of 75%. The level of student completeness is evaluated based on the established criteria for learning outcomes.

Table 1. Criteria for Student Learning Success Level

Interval Score	Category
90 - 100	Very Good
80 - 89	Good
70 - 79	Enough
0 - 69	Needs Guidance

Source: (Handayani et al., 2024)

Calculating classical learning completeness can use the following formula:

Percentage of completeness = $\frac{number\ of\ students\ completed}{total\ of\ all\ students}$ 100%

RESULTS AND DISCUSSION

This study revealed a gradual improvement in learning outcomes for seventh-grade students at NU Miftakhul Jannah Junior High School (Berbek, Nganjuk) throughout the research cycles. The cycles encompassed distinct phases of planning, implementation, observation, and reflection. The results from Cycle I and Cycle II are detailed in the following sections:

Table 2. Comparison of Student Learning Outcomes

Category	Cycle I	Cycle II
Average Score	65,8	82,2
Max Score	85	95
Min Score	45	65
Complete	14	20
Incomplete	10	4
Percentage of completion	58,24%	83,2%
Percentage of incomplete	41,6%	16,4%

The data presented in the table indicates a variation in test results between Cycle I and Cycle II. In Cycle I, the average score was 65.8, with 14 students achieving completion, while 41.6% fell into the incomplete category. In contrast, Cycle II demonstrated an improvement, with the average score rising to 82.2, 20 students completing the assessment, and a completeness rate of 83.2%. This information is further illustrated in a diagram.

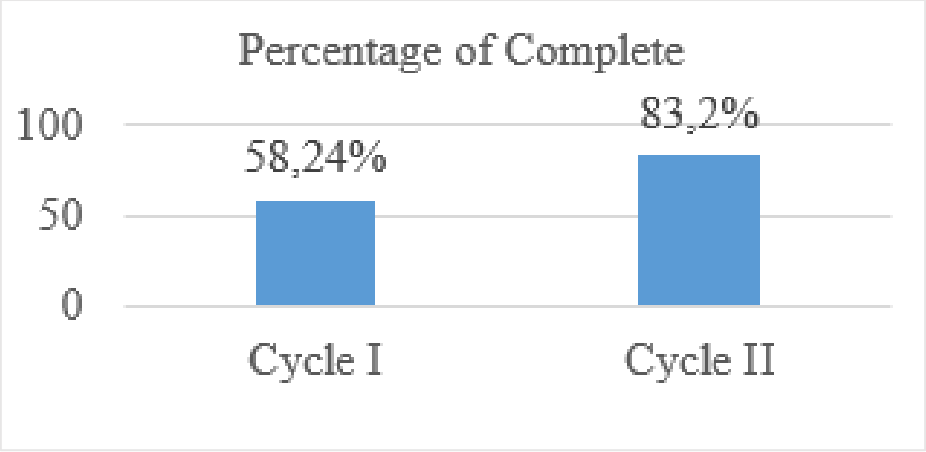

Figure 2. Graph of Student Percentage Achievement

According to the diagram presented, there is a notable improvement in scores from Cycle I to Cycle II. In Cycle II, the average score achieved by students was 82.2, categorizing

it as good. This enhancement in scores can be attributed to the researcher addressing the shortcomings identified in Cycle I. During Cycle I, the instructional approach was less communicative and appeared to be hurried in the delivery of content, which led to diminished interaction with the students. Meanwhile, in cycle II, the researcher explained using more communicative language, making students more active in the learning process by throwing questions to students questions and having students answer them.

This study indicates an enhancement in student learning outcomes, aligning with the findings of prior research by Ferry & Kamil. (2019) In their study, they showed that the use of animated video learning models can improve student learning outcomes. In his research, he has reached the target completeness of 88.8% in cycle II. In his research, the students studied were 18 students with the material on the human digestive system, which is different from this study that focuses on the material substances and their changes. The presence of animated video media and discussion groups in his research is a similarity in this study. In other studies conducted by Febriani et al. (2022)Inovasi et al. (2021), Kusumahwardani et al. (2022), Lake et al. (2023), Putri et al. (2022), Sunami (2021)Research indicates that the incorporation of animated videos significantly enhances student learning outcomes.

The achievement of educational objectives by students serves as a clear indicator of improved learning results. A notable statistical difference between pre- and post-assessment knowledge levels is a critical measure of effective learning. (Yunita & Wijayanti, 2017). The utilization of animated video media is particularly well-suited for application in the context of science education, which is abstract and requires a lot of memorization, where most people are confused when learning the material. (Ferry & Kamil, 2019). This strategy provides a different atmosphere from conventional learning and can increase students' enthusiasm for participating in learning activities. (Wahyuni, 2022). Animation also contains creative and imaginative elements that can foster children's creativity and imagination. (Setiawan et al., 2020). The use of funny and interactive animation media makes learning at school more interesting and fun for students. (Sari & Yatri, 2023). This is especially helpful for science learning, which relatively requires an imaginative description of a term, function, or process. (Imamah, 2012).

The follow-up results of the findings conducted by researchers hope to develop animated video content on other materials besides science subjects. Material development can be done by collaborating with the subject teacher concerned to ensure the quality of the content. In addition, researchers hope to measure objects other than student learning outcomes, such as critical thinking, motivation, and student interest in learning. And researchers hope to conduct research in other classes and at other levels.

The limitations of the research conducted are that, because the research subject is limited to one particular school, the results of the study may not necessarily describe similar conditions in other schools with different backgrounds. This study exclusively examines the impact of animated videos on enhancing student learning outcomes, as assessed through quantitative testing, thereby neglecting other dimensions, such as increased learning motivation and interest in learning, which are not studied in depth. This research also only covers the material of substances and their changes, so it cannot be used as a benchmark for success for other materials or subjects.

CONCLUSION

Based on research conducted on VII grade students of SMP NU Miftakhul Jannah, there was an increase after being given a learning model using animated video media. The data regarding target achievement indicates a notable improvement, with the percentage rising from 58.24% in cycle I to 83.2% in cycle II. This represents an increase of 24.8% across the two cycles. The visual display of moving images combined with sound will provide a more engaging and clearer visualization for students without the need for direct observation. The conclusion shows that students more easily understand learning using animated videos, which affects learning outcomes.

SUGGESTION

From these conclusions, the researcher has suggestions, namely: (1) It is expected that teachers can create more varied learning media and models, such as using more engaging animated videos, physical teaching aids, and/or interactive games that are appropriate for the material to be taught, (2) students are anticipated to engage actively in the learning process within the classroom environment, with the teacher providing stimulationg and reflective questions to the students and allowing them to answer, (3) the school is expected to support learning activities and provide complete teaching materials, (4) research should study learning media other than animated videos such as the use flipbooks in learning or project-based learning, so they can recommended to the teachers regarding effective learning media.

REFERENCES

Azizah, A. (2021). Pentingnya Penelitian Tindakan Kelas Bagi Guru dalam Pembelajaran. *Auladuna : Jurnal Prodi Pendidikan Guru Madrasah Ibtidaiyah*, *3*(1), 15–22. https://doi.org/10.36835/au.v3i1.475

Fadilah, A., Nurzakiyah, K. R., Kanya, N. A., Hidayat, S. P., & Setiawan, U. (2023). Pengertian media, tujuan, fungsi, manfaat dan urgensi media pembelajaran. *Journal of Student Research*, *1*(2), 01-17. https://doi.org/10.55606/jsr.v1i2.938

Fakhrurrazi. (2018). HAKIKAT PEMBELAJARAN YANG EFEKTIF Oleh : Fakhrurrazi ∗ ABSTRAK. *At-Tafkir*, *XI*(1), 85–99. https://doi.org/10.32505/at.v11i1.529

Febriani, E. A., Astriani, D., & Qosyim, A. (2022). *PENSA E-JURNAL : PENDIDIKAN SAINS*. *10*(1), 21–25.

Ferry, D., & Kamil, D. (2019). *Peningkatan Hasil Belajar Biologi Siswa Melalui Penerapan Media Video Animasi Tiga Dimensi (3D)*. *3*(2), 1–11. https://doi.org/10.31629/ph.v3i2.1641

Afdal, A., Handayani, E. S., & Rohaniah, R. (2024). Peningkatan Hasil Belajar melalui Model Pembelajaran Kooperatif pada Siswa kelas IIB Sekolah Dasar. *PTK: Jurnal Tindakan Kelas*, *4*(2), 291-304. https://doi.org/10.53624/ptk.v4i2.355

Imamah, N. (2012). Peningkatan hasil belajar IPA melalui pembelajaran kooperatif berbasis konstruktivisme dipadukan dengan video animasi materi sistem kehidupan tumbuhan. *Jurnal Pendidikan IPA Indonesia*, *1*(1), 32–36. https://doi.org/10.15294/jpii.v1i1.2010

Inovasi, J., Matematika, P., & Vol, I. P. A. (2021). *SCIENCE : Jurnal Inovasi Pendidikan Matematika dan IPA Vol. 1 No. 1 Mei 2021 39*. *1*(1), 39–45. https://doi.org/10.51878/science.v1i1.191

Institut, S., Islam, A., Muhammad, S., & Sambas, S. (2021). PENELITIAN TINDAKAN KELAS (Teori dan Aplikasinya Pada Pembelajaran Bahasa Arab). *Borneo: Journal of Islamic Studies*, *1*(2), 1–17. https://doi.org/10.37567/borneo.v1i2.440

Islam, U., Sunan, N., & Yogyakarta, K. (2022). *Penerapan Model Simulasi Tentang Pembelajaran Mitigasi Bencana Alam Gempa Bumi Berbasis Video Animasi Untuk Meningkatkan Hasil Belajar Siswa Susi Mahmudah 1 * , Farah Fauzia 2 Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia 1,2*. *6*(1), 633–645. https://jbasic.org/index.php/basicedu

Kusumahwardani, D., Pramadi, A., & Maspupah, M. (2022). Peningkatan Hasil Belajar Siswa Menggunakan Video Animasi Audiovisual Berbasis Animaker Pada Materi Sistem Gerak Manusia. *Jurnal Educatio FKIP UNMA*, *8*(1), 110–115. https://doi.org/10.31949/educatio.v8i1.1665

Lake, M. C., Naen, A. B., & Pasaribu, R. (2023). Penerapan media video animasi pada materi pemanasan global untuk meningkatkan hasil belajar dan kemampuan literasi sains siswa kelas xi ipa sman binino. *MAGNETON: Jurnal Inovasi Pembelajaran Fisika*, *1*(1), 1-7. https://doi.org/10.30822/magneton.v1i1.2038

Machali, I. (2022). Bagaimana Melakukan Penelitian Tindakan Kelas Bagi Guru? *Indonesian Journal of Action Research*, *1*(2), 315–327. https://doi.org/10.14421/ijar.2022.12-21

Puspitasari, H., & Informasi, P. T. (2024). *Jurnal Ilmiah Pendidikan Citra Bakti PENGEMBANGAN MEDIA PEMBELAJARAN BERBASIS*. *11*, 487–497. https://doi.org/10.38048/jipcb.v11i2.2925

Putri, A. K., Setiawan, B., Mahdiannur, M. A., Surabaya, U. N., Belajar, H., & Siswa, R. (2022). *PENERAPAN DISCOVERY LEARNING BERBANTUAN VIDEO ANIMASI UNTUK MENINGKATKAN HASIL BELAJAR PADA*. *10*(3), 571–577. https://journal.ipts.ac.id/index.php/ED/article/view/4277

N. K. R., ., P. D. A. A. G. A., & ., D. I. N. J. (2015). PENGEMBANGAN MULTIMEDIA PEMBELAJARAN INTERAKTIF PADA MATA PELAJARAN IPS SISWA KELAS VII SEMESTER GENAP DI SMP N 7 SINGARAJA TAHUN AJARAN 2014/2015 . *Jurnal Edutech Undiksha*, *3*(1). https://doi.org/10.23887/jeu.v3i1.5929

Sakila, N., Wahyuni, S., & Adiansyah, R. (2024). Efektivitas Penggunaan Media Pembelajaran Berbasis Video Animasi Terhadap Hasil Belajar Biologi Siswa Kelas X SMAN 26 Bone. *Oryza (Jurnal Pendidikan Biologi)*, *13*(1), 25-34. https://jurnal.stkipbima.ac.id/index.php/OZ/article/view/1783

Sari, H. R., & Yatri, I. (2023). Video Animasi Melalui Aplikasi Canva Untuk Meningkatkan Hasil Belajar Bahasa Indonesia Siswa Sekolah Dasar. *Edukasiana: Jurnal Inovasi Pendidikan*, *2*(3), 159–166. https://doi.org/10.56916/ejip.v2i3.381

Setiawan, A. M. H., Sayatman, S., & Prasetyo, D. (2020). Perancangan Karakter dan Environment Pilot Project Serial Animasi "Imajinavis." *Jurnal Sains Dan Seni ITS*, *9*(1). https://doi.org/10.12962/j23373520.v9i1.51819

Sunami, M. A., & Aslam, A. (2021). Pengaruh penggunaan media pembelajaran video animasi berbasis zoom meeting terhadap minat dan hasil belajar IPA siswa sekolah dasar. *Jurnal basicedu*, *5*(4), 1940-1945. https://doi.org/10.31004/basicedu.v5i4.1129

Suryaman, S., & Suryanti, Y. (2022). Pengembangan Media Video Animasi Berbasis Plotagon Dan Capcut Untuk Meningkatkan Hasil Belajar Kognitif Siswa Kelas Ii Sekolah Dasar. *Jurnal Cakrawala Pendas*, *8*(3), 841–850. https://doi.org/10.31949/jcp.v8i3.2575

Utomo, P., Asvio, N., & Prayogi, F. (2024). Metode Penelitian Tindakan Kelas (PTK): Panduan Praktis untuk Guru dan Mahasiswa di Institusi Pendidikan. *Pubmedia Jurnal Penelitian Tindakan Kelas Indonesia*, *1*(4), 19. https://doi.org/10.47134/ptk.v1i4.821

Wahyuni, S. (2022). Penerapan Model Problem Based Learning Berbantuan Video Animasi untuk Meningkatkan Hasil Belajar Matematika Peserta Didik. *Jurnal Inovasi Pendidikan Matematika*, *3*(2), 151–165. http://dx.doi.org/10.30587/postulat.v3i2.5043

Wulandari, A. P., Salsabila, A. A., Cahyani, K., & Shofiah, T. (2023). *Pentingnya Media Pembelajaran dalam Proses Belajar Mengajar*. *05*(02), 3928–3936. http://jonedu.org/index.php/joe

Yunita, D., & Wijayanti, A. (2017). Pengaruh Media Video Pembelajaran Terhadap Hasil Belajar Ipa Ditinjau Dari Keaktifan Siswa. *SOSIOHUMANIORA: Jurnal Ilmiah Ilmu Sosial Dan Humaniora*, *3*(2), 153–160. https://doi.org/10.30738/sosio.v3i2.1614